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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/066,421 | 01/30/2002 | Herald M. Baldonado | TI-32857 | 5110 |

7590 11/18/2003

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EXAMINER

CLARK, SHEILA V

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| ART UNIT | PAPER NUMBER |
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2815

DATE MAILED: 11/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/066,421

Applicant(s)
Baldonado et al

Examiner
Sheila V. Clark

Art Unit
2815



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Sep 28, 2003
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, and 4-21 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, and 6-21 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

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In view of the communication filed 9-2-2003 filed on , PROSECUTION IS HEREBY REOPENED. set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Applicant provided an drawing with red features modifications in the communication filed 12-6-2002. There however appears to be no written reference to this drawing correction nor request for approval thereby, this is a drawing correction it has not been approved. Further the new features shown in red have no basis in the disclosure whereby the disclosure fails to have any discussion of a structure represented in this way. The drawings therefore appear to introduce new matter.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claims 7 contains a trademark "MicroStar" whereby said trademark or trade name can not be used in the claims to identify a particular material or product and also constitutes improper use of the the trademark or trade name.

Claims 1, 2, 4-21 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In the amended features in the claims and new claims, there appears to be nothing in the original disclosure that supports the attachment features recited whereby a first end of a wire is attached by a ball bond and second end by a stitch bond and the first end of a second wire by and ball and the second end by a stitch bond. The only stitch feature is discussed on page 4, line 8 with regard to the bond on lead 26. Contrary to applicant's arguments figure 4 fails to show the stitch features recited and therefore fails to make up for the deficiencies of the instant disclosure.

The continuous wire recited in claim 22 fails to be taught in the disclosure. Page 4 lines 15 and 16 with reference to Figure 4, clearly references and shows two wires 20 and 24 and discusses that they are plural wires not a single continuous wire.

Claims 1, 2, 4-21 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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It is unclear what the device structure is of the interposer substrate of the instant invention. The interposer pad is the only device that appears to be shown in the drawings and the specification fails to describe said substrate. There is further no description of an electroless substrate (other than a mention of the substrate on page 2, line 7) in the disclosure nor shown in the drawings. It is also unclear to what "electroless" refers in this instance.

Other than a mention there is also no description or showing in the drawing of a ball grid array. Where is this array located? The chip shown and discussed utilizes wire bonding so it is unclear where a ball grid array would be positioned or located.

There also appears to be no description in the disclosure of for a floating interposer pad.

Further the disclosure discloses use of two wires connected to the interposer. It is unclear where there is basis for single bond wire attached to the interposer pad as recited in claims 3.

There also appears to be no discussion in the disclosure or showing in the drawings for a chip having the particular input, output, supply and ground nodes.

It is also unclear where a plurality of interposer pads are located.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the electroless substrate, single continuous bond wire, ball grid arrays, plurality of interposer pads, floating interposer pad. must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1,2, 4-21 in so far as definite are rejected under 35 U.S.C. 102(a) as being anticipated by Schmidt et al.

Schmidt et al shows a first end of a first bonding wire attached to chip 2 and a second end attached to an interposer pad 4. A second bonding wire is attached at a first end to said interposer pad and at a second end to lead 3. Said bond wire is gold and col.5, line 1 teaches providing ball bonding to said interposer pad.

Claims 1, 2, 4, 6-21 in so far as definite are rejected.

Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant's arguments filed have been fully considered but they are not persuasive.

It is suggested that the applicant consider consulting with the Examiner in an attempt to clarify issues and determine if there are aspects of the invention that possess patentable subject matter and if so how the claims can be amended to allow the claims to be further considered for patentability. Applicant appears to attempt to provide basis for several features that fail to have adequate description in the disclosure and drawings. The features that the applicant attempts to

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show fail to be supported by the features of the drawings nor details rendered in the specification.

Applicant attempts to argue that figures 5 and 6 show pads that correspond to leads under a substrate where solder balls are formed. The drawings however fail to show a substrate and the disclosure fails to teach substrate features to substantiate the claims. Pads connected to leads are further not conventionally bound to a solder bond substrate underside arrangement. The same lack of support is true of the floating interposed pad and stitch pad argument.

Further as discussed above, there is nothing in the original disclosure that supports the attachment features recited where by a first end of a wire is attached by a ball bond and second end by a stitch bond and the first end of a second wire by and ball and the second end by a stitch bond. The only stitch feature is discussed on page 4, line 8 with regard to the bond on lead 26. Contrary to applicant's arguments figure 4 fails to show the stitch features recited and therefore fails to make up for the deficiencies of the instant disclosure.

The disclosure has failed to sufficiently render clear details relative to the above noted structure and therefore fails to provide any real information relative to the features.

Further such features as an "electroless substrate", "ball grid array" etc. may have a variety of structural appearances which fail to be discussed or shown in the drawings. An attempt to show a feature that is inadequately disclosed may be regarded in some cases as new matter.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner S.V. Clark whose telephone number is (703) 308-4924.

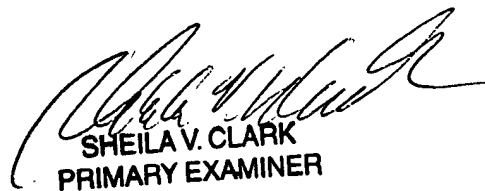
The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722 or 7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

November 13, 2003


T. Thomas

TOM THOMAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800


SHEILA V. CLARK
PRIMARY EXAMINER